Macdonald Journal

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THE MACDONALD LASSIE

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In This Issue

Editor's note

How often have you heard someone say, "Gee you learn something new every day"? The words are usually accompanied by a satisfied smile and a sense of accomplishment — no matter how trivial that "something" is. It might be a new word, a short cut in a recipe for baking bread, a new trick to get the farm truck going when it's 20 below and the feed's running low. It could be a new game or dance or new insight into an old problem.

The important thing is that we, as individuals, at the end of the day have absorbed at least one new thing; that we have broadened our horizon and, hopefully, that whatever we have learned will help us in our endeavours tomorrow. That's the individual's approach. Usually, we're not seeking this new knowledge; we just stumble upon it in the course of the day. It might be while reading, in conversation, watching TV or just looking out the window.

There is, however, a group of people that make it their business to learn something new every day. Collectively they may be called researchers. They delve, they cull, they stumble, they reject and they try again and finally they come up with answers — hopefully, the right ones. And they can be found researching just about everything — from which shelf to put a new product on in a grocery store to the feasibility of growing a new crop in an untried area. Three examples of research are featured in this month's issue. Each has different questions to ask and different problems to solve.

In the first article, Dr. R. Knowles takes us to the forest where research is being conducted on the microbiology of black spruce soils to determine, as he points out, "why the humus nitrogen remains largely unavailable, and in the hope that means for its release may be determined eventually." We are all a target for the researchers mentioned in the second article, for their object of concern is the consumer. This article and a subsequent one should give you a relatively good idea of just how well your every buying action is scrutinized, analyzed, and acted upon. And from the soils of the forest and the local shopping centre we go to the test plots at the College Farm where research is being conducted on the potential merits of growing rapeseed in Quebec. The right answers could mean $10 million a year to farmers in this province.

If you've learned something new from this issue, then the satisfied smile that accompanies a sense of accomplishment will be on our faces!

Editorial

Who Is Holding Trump?

The more you study Canadian agriculture in 1970, the more confusing it seems. There was a time when everyone had a pretty good idea of who was holding what cards. The governments had a specific policy, farm organizations' policy was predictable, and even world markets could be plotted on a graph. But the change in the game has led to a mad scramble to find new rules and hopefully to get a peek at what is really going on.

The President of the Agricultural Economics Research Council of Canada, Dr. Gordon MacEachern states that Canada's agriculture is doing things backward; that we are looking for markets for our surpluses rather than finding what the market is and producing for it. But he doesn't give any constructive ideas as to the specific markets he has in mind and what could be done with surpluses.

The Honourable Jean-Luc Pepin, Federal Minister of Industry and Commerce, speaking in Montreal in February pointed out that Canada's wheat stocks are equal to 2½ times our annual wheat exports. He concluded his philosophy in two words; adjust and cooperate. He did not indicate what adjustments should be made or with whom to cooperate.

World food markets are becoming even more complex . . . and confused. Germany can import grain from Canada, mill it and export it to the West Indies at a better price than Canadians can. France can sell barley to Japan at a much lower price than Canada because of a subsidy of about $1.20 per bushel. While the technological potential for world food production is almost limitless, the fact is that production is being hampered by strict trade policies.

In the West, grain producers are complaining that the government led them into the current grain jam and it is the government's responsibility to get them out of the jam. In the East, where even more families are caught in a dairy jam, there seems to be as many policies as there are provinces and cultural groups with little unity of policy.

Meanwhile, the technology of agriculture is being increasingly adopted on the farm to the point that many farms are capitalized at the $150,000 level. The rest are wondering whatever happened. This technological trend is going to continue at an even faster rate in the 1970s as the business of farming really hits the farm household.

It seems then that what started out as a friendly card game has become hard-nosed gambling. And who is holding trump? At this point it is the Federal Minister of Agriculture who has some key cards up his sleeve but which we have trouble predicting. The cards are the various chapters of the Federal Task Force on Agriculture. In the making for two years, the Task Force report is presently circulating around the Canada Department of Agriculture. Within a month, it is hoped that this report will be made available to the Canadian public.

It will be only when the report becomes available that we will know what kind of cards the Task Force has dealt. There shou be specific recommendations concerning the development of new products and new markets. There has to be some predictions in view of the changing world market, especially with the possib entry of the United Kingdom into the European Economic Commu- nity. There should be some comment on the potential and problems of a North American Common Market. Closer to hom the report must deal with the Canadian Wheat Board's structu and function, with the controvers aspects of national marketing boards and the changing role of farm organizations in setting public policy.

So who is holding trump? The Minister of Agriculture for Canada could be . . . we will only know when he starts to play the cards Hopefully, this will be within the next month. If it is not, then the game will be lost by default. If it i then we'll have special articles on the Task Force report in next month's Journal, we hope.

Dr. Mark W. Waldron

FOREST SOIL MICROBES: FRIEND OR FOE?

Anyone who has walked through a northern coniferous forest or woodlot in Canada will have noticed the typical accumulation of springy organic matter (raw humus) that often occurs. A very high proportion of the total nitrogen nutrient reserves of these forests is locked up in this organic mat in an unavailable form. This may be as high as 1,200 pounds per acre of unavailable nitrogen. Consequently, the trees are very often deficient in nitrogen and respond very markedly when nitrogen is provided in the form of urea fertilizer. Soil micro-organisms, such as bacteria, fungi and algae play an important part in making nitrogen and other nutrients available to plants. For this reason, we are investigating the microbiology of black spruce soils, to determine why the humus nitrogen remains largely unavailable, and in the hope that means for its release may be determined eventually.

Two of the aspects of the problem to which we have turned our attention so far are as follows: (a) the biological utilization of atmospheric nitrogen (nitrogen fixation); (b) the part played by microorganisms in deciding the fate of urea or ammonium fertilizer after it has been added to the raw humus.

Background to the Problem

First of all, let us set the stage for looking at the rather complex relationship between soil and vegetation.

The individual microorganisms in the humus layer cannot be seen by the naked eye, but occasionally large masses of white or yellow filaments of fungal growth are visible. Greater details can be obtained by light microscopy, and further insight into the microbe community can be provided by use of the scanning electron microscope.

The coexistence of the various microorganisms with each other and with the higher plants is not altogether a peaceful one. A continuous struggle for nutrients occurs during which the production of antibiotics and other toxic substances is just part of the biological armament. During this struggle, nutrients are consumed and released, and the tree must compete with the microorganisms for those which are available at any particular time.

In order to appreciate the relationship that exists between the trees and the microbe population of the soil (which usually numbers between 10 million and a billion individuals per gram of soil), it is useful to refer to a diagram showing the processes involved. Fig. 1 illustrates the natural cycle that nitrogen follows between the soil and the tree. The numerals represent the relatively stable reservoirs of nitrogen, while the pathways shown as arrows represent the various forms of transportation or transformation of the nitrogen that occur. The numbers given are the estimated quantities in lbs/acre for the nitrogen reservoirs and lbs/acre/year where a transportation of the nutrient is involved.

In any relationship between soil and vegetation, nitrogen is usually available to plants only when it is in an inorganic form, either as nitrate or as ammonium. There is no evidence, however, that nitrate-nitrogen is available in black spruce raw humus. Fig. 1 shows that even nitrogen in the ammonium form (2.5 lbs/acre), which is the only important nitrogen source for nutrition of the black spruce, is a very small quantity compared with the large nitrogen reserves held in the humus in the unavailable organic form (1150 lbs/acre).

A look at Fig. 1 also shows that the forest stand is, with three exceptions, a closed system where nitrogen changes form and moves around the system, but is not removed from it until such time as the forest cover is removed. The three exceptions are: some losses due to leaching of nitrogen down into the mineral soil, and two natural sources for input of nitrogen to the system — through precipitation (rain, snow, etc.) and through nitrogen fixation. Precipitation introduces some dissolved ammonium and nitrates to the system. Nitrogen fixation, which may not invariably occur in all ecological systems, is closely associated with microbe activity and is the first aspect of the overall supply of nitrogen in black spruce forest that we shall look at here.

Nitrogen Fixation

Nitrogen fixation is the process whereby either certain micro-organisms living freely in the soil or microbe-induced nodules on the roots of some forest plants, are able to use atmospheric nitrogen (N_2) directly, without the normal prerequisite that it be

Fig. 1: Cycling of nitrogen in a black spruce forest stand. The numbers represent the approximate reserves of nitrogen in lbs/acre and the approximate flow rates in lbs/acre/year.

Fig. 2: Recovery of urea- and ammon nitrogen from an incubated sample o humus over the 48 hour period follow addition of 3500 ppm of urea-nitrog The change in pH over the period i also plotted. The nitrogen values giv represent the quantities found over a above those found in untreated contr samples. The data are for the litter layer of the humus.

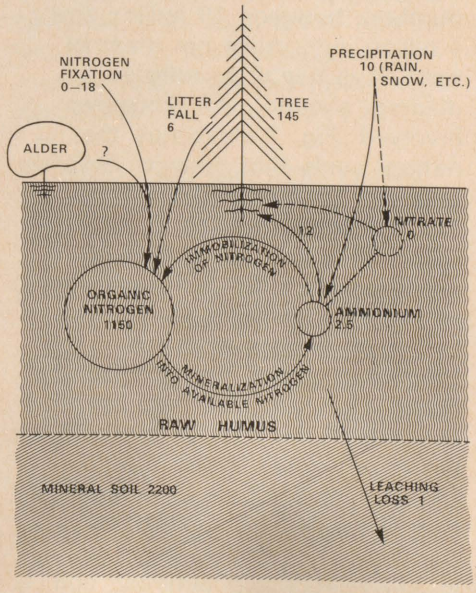
in the ammonium or nitrate forms. In black spruce forest, the alder tree is known to have nitrogen-fixing root nodules. Our studies have shown the occurrence also of the air and oxygen sensitive nitrogen-fixing bacterium **'Clostridium'**, of nitrogen-fixing blue-green algae, and of a yeast-like fungus, for which nitrogen-fixing ability has been claimed.

The next step in our investigations was to demonstrate that atmospheric nitrogen was actually being incorporated into the soil. Samples of the raw humus were incubated for 28 days in an all-glass closed system with an atmosphere that was enriched with the heavy isotope of nitrogen (^{15}N). Determination of the amount of tracer-^{15}N in the humus at the end of the incubation period permitted the calculation of the amount of nitrogen that had been fixed. The experiment was carried out both in the presence and in the absence of oxygen — i.e. under both aerobic and anaerobic conditions. It was found that there was generally a greater fixation of nitrogen under the anaerobic conditions, indicating that organisms such as **'Clostridium'** probably play a fairly important role in the process.

Our studies have provided estimates that fixation could represent gains under field conditions of anywhere from 0 — 18 lbs/acre/year, depending on local conditions. In those cases that are at the top end of the latter range, nitrogen fixation represents a not inconsiderable contribution to the total nitrogen reserves of the black spruce forest.

The Addition of Urea Fertilizer

When urea fertilizer is added to the raw humus of a black spruce stand, there is a long term increase in the size of the available ammonium-nitrogen pool and consequently in the growth response of the trees. In order to study the process involved, laboratory incubation experiments were carried out to determine what happens to urea after it has been added to the humus. It was found that the urea was very rapidly broken down to the ammonium form, through hydrolysis by a microbially produced enzyme called urease, until after 48 hours the amount of urea left was negligible. During this conversion of urea to ammonium there was a rise in pH. However, this never reached neutrality, where ammonium ions in the soil usually begin to convert to volatile ammonia, so there was probably no loss of nitrogen from the system

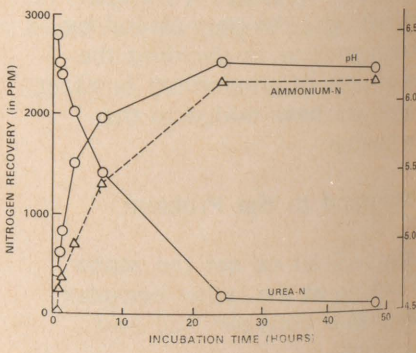


in this way. Some of the results obtained are shown in Fig. 2. When the incubation was carried on for a much longer period of time, 80 days or more, there was only a little decrease in the available ammonium-nitrogen poo This was in agreement with field studies which had earlier indicate that the long-term availability of th added fertilizer nitrogen resulted in an increased growth response of the trees.

The availability of fertilizer nitroge in the raw humus layer may be on of the fundamental reasons for th success of current large scale programs of aerial fertilization wit urea in the cool temperate forests of the world.

In conclusion, our studies indic the need for further work on the processes which cause the relea of nitrogen for use by the trees. They also suggest the importanc of investigating in advance the behaviour in soil of any fertilizer which is to be added to a forest ecosystem.

Dr. R. Knowles,
Department of Microbiology



TARGET: THE CONSUMER

We live in a society which the American economist K. J. Galbraith has called The Affluent Society. It is a society which is consumption oriented: economically, socially, and psychologically. We are not bound by our capacity to produce; as a matter of fact, many industries all the way from farming to steel operate well below capacity. We can produce much more goods than we do. Our economy is bound by our capacity to consume goods. Much of our lives is oriented toward the acquisition and the display of goods. Just consider Christmas, Easter, Mother's Day, Father's Day. These are no longer uniquely festivals. They are to a large extent, an occasion to spend money, buy goods, and give away presents. One of the very important institutions in our society, advertising, is devoted to persuading people to buy goods. Finally, many of us tend to view happiness in terms of how many material possessions we have. I think definitely we are consumption oriented.

The consumer is a V.I.P., a very important person. He stands at the centre of things or rather we should say she stands at the centre of things. The customer in our society is a woman. By far, most of the consumer buying is done by women.

Naturally, many organizations will want to know as much as they can about this very important person. Organizations will want to know: What motivates the consumer? What does he or she buy? How much of it? Why does the consumer buy certain goods and not others? Why are certain brands more popular than others? What are the most effective ways of persuading the consumer to buy? The answers to these and many other questions are provided by research.

So we can imagine our consumer standing at the centre of a group of people who want to know about him or her.

To one side, there are the manufacturers and retailers and back of them, the advertising agencies and the Mass Media — T.V., Radio, and the Press — in their capacity as service agencies to the manufacturer and retailer. Another type of organization, which is little known to the public, gathers information on the consumer and that is the credit bureaus. Finally, some of the large real estate developers in the U.S. and Canada do consumer research.

On the other side of the consumer: First, Government Departments and in Canada these are the Department of Labour, the Department of Health and Welfare, the new Department of Consumer and Corporate Affairs, and Central Mortgage and Housing Corporation (a crown corporation) among others. Second, Universities. And one of the oldest and still continuing consumer survey is done by the University of Michigan on consumer expectations and consumer buying plans. And finally, late comers in consumer research are the Consumer Associations.

With all this research going on and directed at one person, the consumer, we may well ask ourselves whether these organizations and the researchers who work for them are concerned for the consumer as an individual. The researcher has an obligation toward the consumer being researched and toward the organization which sponsors the research to use the best scientific research methods and to report accurately and factually the results of the research. The conscientious researcher is well aware of this obligation and does his best to live by it. Nevertheless, there has been as yet little concern or study on the social and psychological implications of consumer research.

Also pertinent is the concern for the types of persuasion used to influence the buyer. This is where the consumer associations, the government and the universities can play a more active role. The most effective way the consumer can protect himself is by being informed of what goes on. The Canadian government has realized the importance of consumption in our society and hopefully the new department of consumer affairs will provide some of this necessary protection. The consumer is beginning to have a voice, and he is, in a way, talking back to the manufacturer and the retailer. So far, we have emphasized production and consumption regardless of the price, but as a public we are beginning to realize that there are other things to consider. We need less material goods than we have and more preservation of our environment.

In a subsequent article, we will take each of the organizations listed above and review some of the types of research that they do.

Prof. Micheline Chevrier, Sociologist, School of Food Science.

rapeseed

Can we grow rapeseed for oil and meal in Quebec? The answer to this question is undoubtedly yes. We are not sure exactly how many acres could be grown or where these acres are, but it is probable that spring seeded rapeseed can be grown wherever oats are grown. The spring-seeded annual sort of rapeseed has been grown successfully for several years by the Department of Agronomy at Macdonald College. This is the same kind of rapeseed that is grown in Western Canada. The phenomenal increase in acreage of this crop is shown in Table I. There are two different species that comprise the rapeseed crop. One of these species is closely related to the turnip **(Brassica campestris)** and the other is a close relative of the rutabaga or swede **(Brassica napus).** However, instead of producing a big fleshy root one year and flowers and seed the second year, spring rapeseed completes its growth cycle in one season. In Canada we differentiate the two species by calling one "Polish-type" and the other "Argentine-type". Some major differences between the two types are shown in Table II.

If we examine the situation in Western Europe, we find that spring rapeseed is grown only in emergency situations. Instead, winter rapeseed is grown for two reasons. These reasons are higher yield and earlier harvest date. All attempts to grow winter rapeseed in Western Canada have met with complete failure. However, three years of testing at Macdonald College clearly indicate the potential of winter rapeseed. In 1966-67 there was a fair crop, in 1967-68 complete winter-killing and in 1968-69 an excellent crop. Under plot conditions we have been obtaining yields of 3,000 pounds (60 bushels) of seed per acre with the spring seeded kind. The better varieties of winter rapeseed yielded 4,000 pounds (80 bushels) of seed per acre in 1968-69. Remember, that experimental plots usually have a high degree of uniformity and they are carefully seeded and harvested, hence it is often difficult to obtain field yields as high as plot yields. On the other hand, the plot yields are probably not near the maximum as we have many things to learn about the proper culture of this crop.

In considering the merits of this crop the following points need special consideration.

1. **Varieties.** The varieties presently licensed for sale in Canada have all been produced for spring seeding under Western Canadian conditions. They are satisfactory under Quebec conditions and two of them are recommended. They are probably not making full use of the Quebec climatic environment. Special varieties should be bred to give maximum production. There are no winter varieties licensed for sale in Canada. The ones under test at the moment originate in France, Scandinavia, Germany and Poland. Before production of winter rapeseed could begin it would be necessary to license a variety for sale in Canada. A breeding program would be needed to get the best adapted, highest yielding variety possible.

2. **Fertility.** Under Western Canadian conditions soil fertility is seldom a limiting factor. Generally speaking, only small amounts of fertilizer are used. The same cannot be said about European growers who apply a top dressing of 100 lbs./acre of elemental nitrogen ie. 300 lbs./acre of nitrate of ammonia (33-0-0), after a basic application of phosphorus and potassium following the soil-test recommendation. Preliminary work at Macdonald College indicates that the European practice may be required under our conditions.

3. **Seeding:** When rapeseed was first introduced into Western Canada the prairie grain grower had little difficulty in adapting his thinking or his machinery to this new crop. Since rapeseed is about the same size as turnip or swede seed, the traditional grain drill was unsatisfactory. Forage seeding equipment was found to work well with the six to eight pounds of seed normally used. Fertilizer drills can also be used. In this case the seed is added to the fertilizer in the drill. Care must be taken to mix well. The seeding rate can be difficult to control. Fertilizers containing nitrogen can damage the seed with prolonged contact.

4. **Weed Control:** We have had no trouble with weeds in experimental plots. Three to four weeks after seeding, there is a dense canopy of broad leaves that smother the weed seedlings. If rapeseed is grown in rotation with cereal crops, herbicides of the 2, 4-D type can be used effectively at that time to keep down weed populations. In cases where the rapeseed emergence is poor or spotty due

to lack of moisture (not uncommon in Western Canada) weeds can be a problem. There are new herbicides under trial at the moment that are reasonably effective. One or more of these may be recommended shortly. A major problem is to get a selective herbicide that will kill wild mustard without damaging its close relative — rapeseed.

5. **Insects and Disease:** Disease has not been a problem so far. One insect, the turnip flea beetle can cause great damage to the seedlings if not controlled. Control is simple and is detailed in pesticide recommendations.

6. **Harvesting:** Traditionally in Europe, sickles and hand tying or binders and stooking was employed and can still be seen today. On larger areas the combine harvester is used and in Western Canada this is the only method used. Some years ago direct cutting was used but seed shattering losses were high. Nowadays the swather is in common use. The combine picks up and threshes the swathed material. Knowing when to swathe and when to pick up requires certain skill and experience.

7. **Uses and Marketing:** Rapeseed is purchased and processed by oil seed crushers. The extracted oil is then bought by secondary processors who use it as the basis for margarine, solid and liquid shortening and salad oil, in much the same way as soybean oil or sunflower oil. The residual meal has a very high protein content and is bought and used by livestock feed manufacturers in the same way as soybean meal or linseed cake. Unfortunately, whole rapeseed cannot be fed directly to livestock on the farm.

If rapeseed is to become a cash crop in Quebec, there are two main requirements. Firstly, an oil seed and to find domestic and located centrally. This processor must be prepared to handle Quebec seed and to find domestic and export markets for the processed raw materials. Secondly, storage facilities must be built similar in function to the familiar prairie elevator. These are essential to accumulate seed from farms, clean it if necessary and ensure a steady supply to the crusher of high quality seed, in the required amount, at the required time.

Plant scientists and others are at work trying to solve the problems of farm production of this new crop for Quebec and Eastern Canada. The big unanswered and extremely urgent questions today are: Who will meet the challenge of marketing this commodity in Quebec? Who is prepared to process five million bushels from 100,000 acres?

Positive decisions on these questions could mean at least $10 million in sales for Quebec farmers.

Dr. Norman C. Lawson,
Department of Agronomy.

Acreage and production of rapeseed in Western Canada over the past 10 years.

YEAR	ACREAGE	PRODUCTION (BUS.)	YEAR	ACREAGE	PRODUCTION (BUS.)
1960	763,000	11,120,000	1965	1,435,000	22,600,000
1961	710,300	11,220,000	1966	1,525,000	25,800,000
1962	404,500	5,860,000	1967	1,620,000	24,700,000
1963	478,000	8,360,000	1968	1,052,000	19,400,000
1964	791,000	13,230,000	1969	2,012,000	37,100,000

Characteristics of the types of rapeseed presently grown in Canada

Characteristic	Argentine type **(Brassica napus)**	Polish type **(B. campestri)**
Days to mature	About the same as spring wheat	Two to three weeks earlier than spring wheat
Height	2½ to 4 feet	1½ to 3 feet
Shattering	Shatters readily when ripe	More resistant to shattering
Frost damage	Susceptible to late spring and early fall frost	More resistant to early spring frost and usually matures before fall frosts
Seed yield	2,000 - 3,000 pounds (40-60 bushels) at Macdonald College	Generally about 25 percent less than Argentine type
Seed size and colour	Large like swede seed Very dark brown to black when mature	Half size of Argentine type. Reddish brown to black when mature
Oil content	40 to 46 percent	40 to 44 percent
Variety recommended for Quebec	Oro	Echo

The Family Farm

Published in the interests of the farmers of the province by the Quebec Department of Agriculture and Colonization

A Common-sense View of the Family Farm

Shortage of labour, increased costs and low returns have all combined to force us into streamlining and reducing the number of our enterprises. As a follow-on from this the tendency is to boost our remaining enterprise so as to maintain our income. I cannot help but feel there are dangers in such a policy.

Whatever the business, the tendency nowadays is to go in for bigger and bigger units, and to a certain extent I suppose we have got to follow suit. Increase the size of the unit and you increase the production; but I think that very few manufacturing businesses go into anything without first ensuring that there is a market. I think that this is a lesson we may yet have to learn.

The small family farmer, employing little or no labour, is much more favourably placed to switch the emphasis from one line to another and I think there is a future for such a person for many years to come. He may have to alter his targets — for instance if the large livestock unit is going to break down, it will be in the direction of breeding and rearing replacements. A big concern may find it difficult to exercise the personal attention to detail so necessary for good results. There is already some movement in this direction among breeders of hybrid pigs.

(From "Man with a View" by John Lewis in the Farmer and Stockbreeder, England, 9 December 1969)

A Period of Transition

Quebec's agriculture — by no means free from the malaise from which farming is suffering all over the world — also has problems of its own resulting from adverse geographical factors and other special conditions. The difficulties include severe climate, scattered production, and remoteness from big commercial centres, aggravated by the results of outdated ideologies, longstanding limited access to farm credit, the scant opportunities for general educational and vocational training for older farmers, and prolonged absence of a well-defined agricultural program.

Quebec is now busily, and not unsuccessfully, engaged in making up for lost time in agriculture. The effort is a joint one by progressive farmers and by a government which is seeking, through a realistic policy and well-planned and integrated measures, to raise the farmer's net income immediately and lay the foundations of a dynamic and profitable agriculture for the future.

Scope of Quebec Agriculture

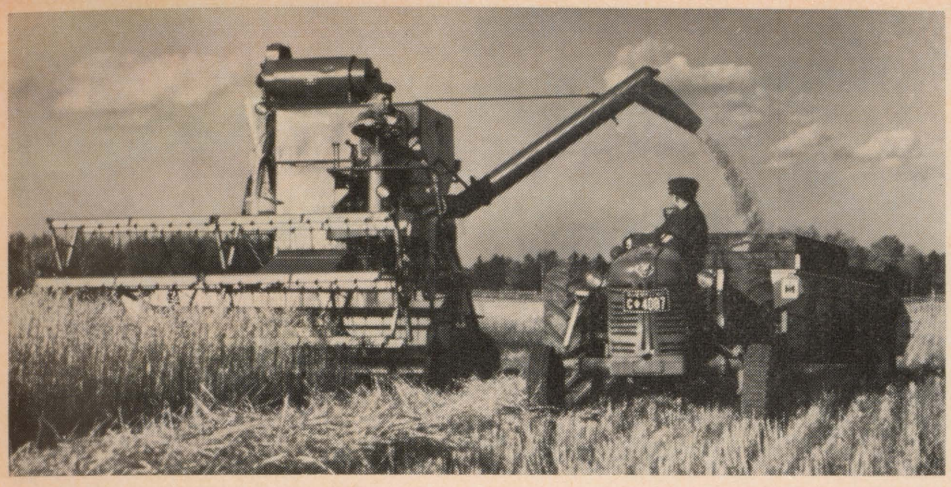
Any review of Quebec's agriculture, however brief, must include at least a short description with some basic statistics. In the first place, there is the relation between the amount of potentially arable land and the total area of the province. Quebec has only 32 million acres of potential farmland, or about 10 percent of its area, and scarcely half of this farmland is occupied. Quebec's 80,000 farms cover 12.8 million acres, 7.6 million of which have been cleared of trees. Of this 7.6 million acres of cleared land, 5.2 million are under the plough. Quebec's agricultural resources are thus obviously not unlimited.

Furthermore, the farming population is rapidly decreasing and, at present, does not exceed 10 percent of Quebec's total population of about six million. The rate at which farms are being abandoned is calculated to be three percent a year and the farm labour force is declining at a comparable rate.

The total value of farm property in Quebec in 1966 (land, buildings, livestock, and machinery) was $1.8 billion. In the same year, gross farm income from agricultural production was $700 million. Agriculture is still Quebec's biggest primary industry, but its importance in comparison with other sectors of the economy is declining.

The average Quebec farm has got bigger during the past 20 years and is now reckoned to cover 160 acres. It has also become mechanized and increased its capital investment and sales of farm produce. Operating costs have likewise risen and net farm income, after a period of decline between 1951 and 1961, has since begun to recover.

In Quebec, 85 percent of farms are owned by those who operate them. The family farm with one or two work units is expected to remain the most popular mode of tenure. This prediction is not incompatible with the trend toward fewer and bigger farming enterprises.



Harvesting oats with a combine on the farm of Mr. F. Rioux of St-François-Xavier in Rivière-du-Loup County.

Agricultural production

Most of the farm income comes from relatively few productions. Livestock accounts for 85 percent of it while plant products (such as vegetables, fruit, potatoes, tobacco, barley and oats) only account for 11 percent of the farmers' income from agricultural operations, and forestry and maple syrup for four percent.

Dairy farming is the most important livestock production and brings in 35 percent of the cash income or more than double that from pig raising. Poultry production comes third with 15 percent, followed by butcher cattle, sheep and lambs.

Quebec's agricultural economy is thus built around dairy farming, which is its basic enterprise as regards volume (six billion pounds of milk a year) and value ($215 million), and the number of farmers engaged in it (56,000). Quebec ranks second (slightly behind Ontario) among the provinces of Canada for the quantity and value of its dairy production.

Two thirds of the milk produced is made into dairy products, including butter, cheese, concentrated and powdered milks, and ice cream. Quebec's Cheddar cheese has a world-wide reputation and has earned an enviable renown on the British market. Because of the limitations of the domestic and world markets, Quebec farmers are turning to other productions (beef cattle and industrial crops for instance) and diversifying their agriculture.

Government action

The present agricultural policy of the Quebec government is based on modern concepts of profitability, up-to-date forecasting methods, and the trends likely to result from rapid scientific progress. Its main fields of activity are farm development and financing, information services, and marketing.

The overall aims of this policy are to raise the income of as many farmers as possible, increase the number of paying farms through consolidation, reorganize agricultural production to suit market requirements, complete the vocational training of the present farmers, and ensure that their successors will be thoroughly qualified to maintain a progressive and dynamic agriculture.

The modernization and restoration of farming are of vital concern to Quebec, where agriculture continues to be a stabilizing social and economic factor.

Yields: From Field Crops to Fur Farming

The Agriculture Section of the Quebec Bureau of Statistics has issued an estimate of total yields of Quebec's main field crops in 1969, based on reports as of October 15 from crop correspondents and agronomists of the Department of Agriculture and Colonization.

Barley, rye, corn for grain, dry beans, tame hay, and fodder corn crops showed higher yields than in 1968; the other field crops gave slightly lower productions.

The 1969 oats production is estimated at 38,415,000 bushels, a decrease of 8.4 percent from last year's (1968) output. There were 3,752,000 bushels of mixed grains harvested against 3,811,000 in 1968. Owing to a larger yield per acre, the hay crop rose from 6,590,000 tons in 1968 to 7,029,000 tons in 1969, an increase of 6.7 percent. The potato production is estimated at 7,698,000 cwt as compared with 9,716,000 in 1968 (a decrease of 20.8 percent).

Total yields of other field crops in 1969 are estimated as follows (with 1968 yields in brackets): wheat 754,000 bushels (831,000); barley 866,000 (695,000); rye 112,000 (104,000); flaxseed 192,000 (256,000); grain corn 3,483,000 (2,535,000); buckwheat 290,000 (353,000); dry peas 34,000 (35,000); dry beans 18,000 (16,000); fodder corn 1,086,000 tons (1,050,000); field roots 36,000 tons (45,000); sugar beets 156,000 tons (204,000).

Quebec's apple crop in 1969 is estimated at 5,402,000 bushels or a little less — by about 200,000 bushels — than in 1968. Early varieties gave 402,000 bushels compared to 299,000 in 1968 and late varieties 5,000,000 bushels or 300,000 less than in 1968. The average farm price per bushel of apples in 1968 is given as $1.63.

Strawberry production in 1969 amounted to 9,100,000 quarts or 20 percent more than the 7,600,000 produced in 1968. The 1969 raspberry crop is estimated at 1,100,000 quarts as compared to 800,000 in 1968. The average farm price of strawberries in 1968 was 29 cents a quart and of raspberries 42 cents a quart.

The 1969 blueberry crop is put at eight million pounds compared to six million in 1968. About two thirds of the entire crop is produced in the Chicoutimi-Lake St. John area. The value of the 1969 crop is given as $1,444,000.

The 1969 output of maple products in Quebec, on a syrup basis, is estimated at 1,754,000 gallons compared to 2,453,000 gallons in 1968. Production of syrup at the farm amounted to 1,678,000 gallons, that of sugar produced on farms to 326,000 pounds, and that of maple taffy to 468,000 pounds. Total farm value of maple products was estimated at $10.5 million in 1968 as against $9.7 million in 1967. The farm value of maple products for 1969 will be published by the Quebec Bureau of Statistics at a later date when all sales figures are available.

There were 1,386 beekeepers in Quebec in 1969 compared to 1,485 in 1968. The number of hives in 1969 shows a slight decrease from the 43,550 in 1968.

The honey crop for 1969 is estimated at 3,501,000 pounds against 2,395,000 in 1968. The average production per hive in 1969 was 82 pounds compared with 55 pounds in 1968. The 1969 honey crop is described as follows: white, 75 percent; dark, 22 percent; comb, 3 percent. The value at the farm of the 1969 honey crop totals $980,000 compared to $671,000 in 1968. The average weighted price paid to producers per pound of honey (containers excluded) was 28 cents, the same price as the year before. The aggregate value of honey and beeswax is estimated at $1,005,000 in 1969, an increase of 45.7 percent over the $690,000 for 1968.

Since 1961, the number of farms engaged in the breeding of fur-bearing animals has been steadily falling. From 232 in 1961 the number fell to 126 in 1968. Seventy-five farms were breeding mink and 48 chinchilla.

The number of mink on farms was 50,071 at January 1, 1968, compared to 33,296 on the same date in 1961. In December 1968, the mink population had risen to 53,800. This compared with 35,940 in 1961.

At January 1, 1968, there were 6,980 chinchillas on farms. This was a decrease from the 8,195 chinchillas of 1961. On December 31, 1968, there were only 4,935 chinchillas on farms as compared to 7,313 in 1961.

The total number of fur-bearing animals at December 31, 1968 was 58,750 compared to 44,963 in 1961. Most of them were mink or chinchillas but there were some foxes, fishers, nutria, raccoons, beavers, lynx, and otters.

In 1967, 162,446 mink skins valued at $1,762,070 were produced on fur farms. This compared with 74,823 skins and a value of $974,200 in 1961. There were 1,766 chinchilla skins produced in 1967 for a value of $19,638. Altogether 164,232 skins of fur-bearing animals were sold by fur farms in 1967, for a total value of $1,782,394. In 1961, 78,953 skins valued at $1,003,870 were produced.

A Clubroot-Resistant Cabbage Being Bred for Quebec

Clubroot, caused by **Plasmodiophora brassicae** is one of the most destructive diseases of crucifer (cabbage line) crops in Quebec. Surveys have shown that losses are generally heavy each year. In some fields the disease has wiped out entire crops so that growers have had to abandon cabbage production in those fields.

Practical and effective means of controlling clubroot in mineral as well as in organic soils are few. Previous experiments have shown that no fungicide controls clubroot equally well in mineral and organic soils. Chemicals such as HgCl and $HgCl_2$ will reduce the disease incidence to some extent in both types of soil. The soil fungicide quintozene may give satisfactory results in moderately infested mineral soil whereas it will not control clubroot in organic soil. Therefore, developing resistant varieties of cabbage through breeding would seem the most promising and effective means of control.

At the St. Jean Research Station, breeding work has progressed during the past three years. Preliminary screening tests of wide collections of cabbage and other crucifers, obtained from plant introduction stations of the U.S.D.A. and through personal correspondence with plant breeders of various countries, have been done in the greenhouse during the winter months.

In their work, Dr. M. S. Chiang and Mr. R. Crête of the CDA Research Station at St. Jean

No matter how specialized a farming enterprise might become, few farms would be complete without a garden.

retain varieties or selections showing resistance and then test them in heavily infested mineral and organic soils at L'Acadie and Ste. Clotilde.

A considerable number of plants with a high degree of resistance and good qualities have already been selected from segregating populations resulting from crosses between resistant and susceptible varieties but further inbreeding and selection are necessary before a resistant commercial variety can be developed.

The most promising line developed at St. Jean so far is designated at present as 8-41 and is in the fourth generation of inbreeding after hybridization. This line was selected from the hybrid in which one parent inherited the resistance genes from kale. It was tested in the summer of 1968 in the field, along with four commercial varieties (Golden Acre, Red Acre, Houston Evergreen, and Pennstate). These commercial varieties did not produce marketable heads owing to severe clubroot infection, but 8-41 produced a good normal crop. The line has shown a high degree of resistance but is not immune. It also produces relatively small and firm heads which can stand in the field for several weeks after maturity without splitting. It is believed that this line should be available to Quebec growers in the near future.

Advice to Mink Breeders for May

In spring, mink ranches spring to life again with the birth of the kits, starting generally about April 20 and ending around the 25 of May.

At this season, the mink breeder should pay constant attention and take special care to ensure as many births and save as many of the new-born kits as possible. One kit more per female can make all the difference between profit and loss with a mink ranch.

Surveillance and observation

When making his rounds for feeding or other purposes, a mink breeder should listen carefully to distinguish between the normal whimpering of newly born kits and plaintive cries. He will notice that a female will refuse almost all food on the day she gives birth. She should be given only a light feed the next day. Black stools are also a sign of parturition.

If the arrangement of the nests permits and when the female is outside, it is a good idea to take a peep at the kits to see how they are, but don't disturb the nesting material. It is enough just to take a brief look to see if everything is normal and make a quick first count. The number and condition of the new-born kits and their date of birth are then entered on the mother's identification card. It is a good thing to examine the same litter on the following day. If all is normal, there is no need to disturb it again for another five or six days. Dead kits must be removed and thin weak ones may be saved by getting other females to adopt them.

Healthy kits are plump, warm and sleek. Kits that are lukewarm, bony-looking, and have wrinkled skin should be watched more closely. If they do not make any progress and keep complaining, it is a sign that their mother cannot feed them enough and they should then be adopted by other females whose litters are one day younger. Females in good condition with only three or four kits can easily look after two or three more. It is only necessary to put these orphans in the nest of a good milking female and she will take as much care of them as of her own kits. In litters of eight or nine there will usually be two or three that are neglected and unthrifty: it pays to get them adopted by females with smaller litters during the first days of their lives.

Some kits may have got entangled in their umbilical cord. If it is long it is better to cut it. This should be done at a reasonable distance from the kit's body so that it does not make it bleed.

Temperature and ventilation

If the weather is cold at whelping time and the females lack litter, a supply should be put in the corner of their nests. They will then arrange it in their own way to shelter their kits. If the nests are clean and dry, the kits will be more comfortable up to the time they are weaned.

If it is warm, however, more ventilation will be needed and, if necessary, the partition separating the kits from the entrance to the nest will have to be removed to let the air circulate more freely. On hot days, it may even be necessary to improve circulation by removing the panels which are fitted to the sides of the sheds in winter. If it gets too hot inside the sheds or nest, the young mink may die of suffocation. On the other hand, steps should be taken to see that the kits do not leave the nest before they are four to five weeks old. At that age, however, it is very good for them to emerge and start to eat solid food. During warm spells it is necessary to provide fresh cool water three or four times a day.

During whelping time, the females must not be exposed to noises they are not accustomed to, and especially not to smoke, which is extremely harmful.

A Dictionary to Help You Shop

A useful 27-page dictionary entitled in English "Main terms used in meat industry and other products" and in French "Principaux termes employés dans l'industrie de la viande et autres produits" has been published by the Quebec Department of Agriculture and Colonization.

The English-French part of the booklet will help people wanting to know, for instance, the French for "loin chops" (côtelettes de filet); "meat pie" (tourtière); "unfinished casings" (boyaux à saucisse non-nettoyés); or "canned blueberries" (bleuets en conserve).

The French-English part will tell you, for example, the English for "avec poudre de lait écremé" (non-fat dry milk added); "boîte de bois brochetée" (wire-bound wood box); "caneton" (duckling); and "carton d'étalage" (display carton).

This publication will be useful for preparing bilingual labels and menus.

The Department's Veterinary Service has also published a bilingual leaflet showing the retail cuts of beef in colours, with their names in French and English.

This Month with the QWI

Argenteuil

Arundel: Had a quiz on health facts which had been made up by a nurse. Brownsburg: Heard Cst. A. Lebeau speak on Drugs. Dalesville-Louisa's program was in charge of the executive. Frontier: Members and guests brought articles from many countries around the world which set the tone of the program on A.C.W.W. Lachute: Had a quiz on world happenings in 1969. Upper Lachute/East End: Heard Mrs. Bignell from the senior citizens Lachute Residence tell about the Residence.

Baldwin-Cartier

West Island: First meeting; Mrs. G. McGibbon, President was in attendance to declare this branch officially opened. The roll call was to say a French word. Mr. Gordon Drysdale, Principal of Lachine High School, gave a talk on Bill 62, followed by a question and answer period. Refreshments and social hour brought the meeting to a close.

Chateauguay-Huntingdon

Aubrey-Riverfield: Citizenship Convener read extracts from the Bill of Rights as outlined by Mr. Glen Brown, M.N.A. for Brome County. Letters of thanks were read from Howick School Cafeteria for donation of $10 and from Welcome Hall for quilt sent at Christmas. Two sunshine baskets were sent to members who are ill. Birthday card was signed by members and sent to a former member, Mrs. James Bruce, who celebrated her 90th. birthday on Jan. 1. Dewittville: Mrs. R. Gill read the Christmas story of "Halihit York", an Eskimo girl in the Children's Hospital who wanted a whale for Christmas. Mr. John Capiello, of the manpower office in Huntingdon, spoke on the objectives of his office in placing and retaining men in jobs. He distributed booklets on Career Outlooks in University and Community College. Hemmingford: The Convener of Publicity, Mrs. H. Palmer, spoke on the Tweedsmuir competitions and gave a brief historical outline of Lord and Lady Tweedsmuir's term in Canada. Slides were shown of the prize-winning handicraft articles in several of the past competitions, (quilt block, samplers, chair seats). These slides were obtained from the F.W.I.C. Office. The branch is sponsoring 10-week sewing courses for Beginners and Advanced. Much interest is shown in the community for this project. A magazine subscription was sent to our Forgotten Patient. Used stamps were given to the Junior Red Cross. Ormstown: Dr. Marion Kelen of the Ormstown Medical Centre spoke on the diagnosis of simple ailments and from "Head to Foot", and introduced her talk with the poem, "You Are Old Father William". Tribute was paid to two community citizens — Miss Nan Gilsthorpe, author of "Dr. Leslie's Triumph", and Mrs. Ernest Tremblay (Lorraine), artist and gardener of Franklin. The tribute was prepared by the citizenship convener, Mrs. W. Holmes.

Compton

Brookbury: Roll Call "A Childhood Memory of Christmas". Packed boxes for shut-ins and had an exchange of gifts. Canterbury: Held a card party and sent proceeds to student loan fund. Sent clothing to a needy family. Had a treat for the children of the community. Gifts bought for shut-ins and military hospital. Suggested that the group have French lessons. East Angus: Eighteen members answered the roll call by each bringing a gift or a decorated basket for a shut-in. Read letter received from Glen Brown re speech given in National Assembly. Conveners items: Citizenship — Read article about showers at Regional school, also an article written by a nine-year-old child stating that we should use horses instead of cars as they wouldn't pollute the air. Education — Reported on prices of lunch at Regional school, also reported the closing of the McLennan Library. It was felt that a protest be made as the service of this Library is badly needed. Publicity — Articles read on legends of Christmas stockings, gifts and candles on trees. Christmas cheer sent to shut-ins. Pads made for nursing home. An exchange of gifts took place. East Clifton: Roll call was a gift for forgotten members at hospital and $2 for community candy bags. Christmas cheer planned. Read article, "My Christmas Wish For You". Held discussions on "Open Showers At Regional School" and "Why Marijuana?" Mr. Wayne Bellam spoke on "Safety in Hunting". He gave 10 safety rules and demonstrated the proper way to handle a gun. Teachers of Sawyerville Elementary School joined with W.I. members for lunch and a social hour. A discussion followed on how parents fit in to the new educational system and needs of the school. Each member brought a guest, also a gift for a child in the

Dixville Home. Roll Call was "What I'd like best for Christmas". Games and contests with the Christmas theme and Bingo was enjoyed by everyone. Scotstown: Held an exchange of gifts. Patients at the Scotstown Home were given gifts. Five dollars was given to the Northern Extension Fund. Clothing brought for children for Christmas gifts.

Megantic

Kinnear's Mills: Gave a gift to a member for her new baby. Answered the Roll Call with a New Year's Resolution. As the Publicity Convener, Mrs. Nutbrown, had the misfortune to injure her leg in a car accident and was unable to do much work, each member brought her some home-cooked food. The branch also gave her a vase. A former member, Mrs. Janie Marshall, and Mrs. Lowery were present at the meeting.

Missisquoi

Cowansville: The Roll Call was answered by naming a Canadian statesman and telling what he did. An article was read comparing the birth rates of the provinces of Canada. The Health and Welfare Convener told about the content of various commercial cleaners. The Convener of Citizenship gave a talk on the advances of the past century, and the outlook for the 1970s. Dunham: A Christmas party was held with an exchange of gifts. Each member donated a gift to be given to an elderly person in a convalescent home. A donation of $35 was given to the local school for hot lunches. Christmas cards and presents were sent to shut-ins. Fordyce: The roll call was answered by a two-minute talk on a country of the A.C.W.W. Donations of $10 each were given to the Retarded Children's School, to the Children's Hospital, and for hot lunches for needy children. Articles were read from an English magazine sent by a W.I. member in England describing their 50th anniversary. Stanbridge-East: The Roll Call was answered by naming Do's and Don'ts to keep healthy. A discussion was held regarding the program for 1970-71. Thanks were received from the Douglas Hospital for Xmas parcels and from families for whom flowers were placed in church at a Memorial Service for a deceased member of our W.I. The Convener of Welfare and Health conducted the meeting, the topic being "Killers in Your Living Room", referring to poisonous plants etc. She also held a word contest and awarded a prize.

Montcalm

Rawdon: The December meeting was mostly a social evening with a number of guests present. A card for Mrs. Vail who is in hospital due to an accident was signed by everyone. Greetings from members were sent to our W.I. friends of Renhold (England) branch with whom we correspond periodically. By way of entertainment carols were sung, after which small gifts were exchanged from "A Fish Pond". There was more time left than usual for visiting with each other while partaking of special refreshments provided by Mrs. Copping.

Pontiac

Beechgrove: Education Convener reported data on Bill 62, comprehensive secondary school — its economic and social impact, updating in the financial branch of the Dept. of Education. Material as contained in the Bulletin, "Education Weekly", published by the Dept. of Education. Held a Christmas word scramble and played Barnyard Bingo. Afternoon meeting was held for members with young children. A supervised play was put on for children present. Had social gathering and pot luck supper. Tickets to be sold on quilt, quilted at a "Quilting Bee" held at the home of Mrs. Meredith. Exchange of gifts held and shut-ins remembered. Bristol: Christmas Readings given. Sale of work brought in by members. Held White Elephant sale. Gifts were packed for children at Brookdale Home. Plans were made to decorate tree at the Memorial Park. Fort Coulonge: Heard a reading on winter customs around the world. Carols were sung. A demonstration was given on gift wrapping. Donations to Sacred Heart Manor and to T.B. seals. Gift sent to sick friend in hospital. Members held an exchange of gifts. Quyon: Gifts brought in for patients in Ade Memorial Hospital. Donations made to T.B. seals, Cystic Fibrosis, and to Central Auxiliary of the Pontiac Community Hospital. Some items in the Fair exhibit were arranged for. Starks Corners: Heard reading on writers of Christmas Carols and sang these carols. Had exchange of gifts. Pot holders were sold by Chinese auction. Presented an Institute member with a gift for

her new baby. Generous boxes of food were packed for elderly people. Wyman: Heard Christmas Story and Christmas Carols sung. Two contests held and prizes given. Had exchange of gifts. Christmas cards and boxes were sent to the elderly, those who were ill or shut-in. Pennies for Friendship were collected.

Richmond

Cleveland: Roll Call — 'Twas the Night Before Christmas. Cheer boxes sent to the Wales Home and shut-ins in the community. Held a guessing game which was won by Miss Flora Fletcher. Also had a jumbled word contest and a swap contest. Christmas gifts were exchanged. Gore: Roll Call — A Christmas I especially remember. Plant and cards sent to a member in hospital. Held a contest on wrapped Christmas Gift. Entertained members' children nine and under, providing gifts and candy. Gifts for mental patients of Dixville Home. Members exchanged gifts. Sunshine basket and sympathy card sent to two members. Melbourne Ridge: The sick and shut-ins were remembered at Christmas with boxes of home-made cookies. Agriculture Convener read an interesting article from Food and Drug Department on Cyclamates. Each pre-school child received a gift and candy. Members exchanged gifts. Richmond Hill: Patterns brought in and discussion held on knitted afghan for the County Project. Mrs. Ernest Smith and Mrs. Wm. Baily were winners of contest held. A donation of $10 was given to the Dixville Home. Eleven shut-ins were remembered with Christmas cheer boxes. Four get well cards sent. Richmond Young Women: Catered to a banquet. Donation made to St. Francis Welfare Fund for hot lunches. Had a contest for the best home-made Christmas table centrepiece. Exchanged gifts. Spooner Pond: Roll Call, "Tell some incident you remember about a Christmas Concert". This was answered by 22 members. Drawing held on walking doll, her wardrobe and bed was won by Mrs. Eula White. Prize for the prettiest wrapped Christmas gift was won by Mrs. G. Foster. Gifts exchanged and carols sung. Donation made to Wales Home Christmas Party. Gifts given to pre-school age children of members. Presented a picture to Mrs. A. Coddington, the oldest member.

Rouville

Abbotsford: Xmas gifts and fruit were sent to shut-ins and to the Butters Home. Talent money table very successful. A 'Pot-Luck" noon meal enjoyed at last meeting. This was very pleasant for a gathering at a winter meeting.

Shefford

Waterloo-Warden: Roll Call — Bring a 50-cent mystery parcel to be sold for Pennies for Friendship. Readings given — "A Canadian New Year 1970" and an article on detergents. Care package raffled. Coloured slides shown of a trip to England. Granby West: Report on Bill 63. Members voted to send a basket of fruit to a local home for the aged every month during 1970. Granby Hill: Roll Call was name an old time remedy used by our grandmothers for a common ailment. Contest was name a disease starting with the letter A and continue with every letter of the alphabet.

Stanstead

Beebe: Roll Call — Name a famous doctor and tell why he was famous. Each member agreed to give a card party at her home to raise money. Hatley: Roll Call was a written suggestion for next year's program. Received a report of prizes given to children for best kept school fair gardens. Hatley Centre: In December members exchanged gifts, collected gifts for children at the Dixville Home, prepared Christmas cheer boxes for shut-ins. Money voted for purchase of a book for the school library. January — Sunshine Convener reported 14 Christmas baskets delivered to sick, shut-ins and elderly citizens. Stanstead North: Roll Call "A news item of interest". Voted to buy a book for the public library to be given in honour of the branch's 22 charter members, whose names will be inscribed on the fly leaf. Heard a talk by Mrs. Lloyd Bliss, wife of the editor of the Stanstead Journal which is celebrating its 125th anniversary this year. Heard report of baskets and other gifts sent to shut-ins at Christmas.

Vaudreuil

Harwood: This branch enjoyed a social evening with games and competitions arranged by Miss Dixon. Nine members visited St. Anne's Veteran's Hospital taking along gifts for the men. Our Health and Welfare convener continues to collect knitted garments and baby clothes for our Unitarian Service Project.

Quebec Women's Institutes

New Residence for Senior Citizens at Lachute

On Tuesday, December 23, 1969, guests of the Lachute Residence celebrated their first Christmas in the newly completed home. The traditional Christmas dinner served during the day was followed by a most enjoyable evening when members of the Dalesville-Louisa W.I. gathered with the residents to share the joys of the festive season. Members of the Board of Directors and the Ladies Auxiliary of the Residence were present and one and all were welcomed by Executive Director, Mrs. Bignell.

Mrs. Margaret Gordon, President of the Dalesville-Louisa W.I., directed the program, which included the singing of favourite carols, the Christmas Story narrated by Mrs. A. Burk, a humourous recitation, "Christmas at the Purple Bear" by Mrs. A. Morrison, a duet, "Have a Blessing Ready" by Mrs. N. Tarnatly and Mrs. A. Morrison, and a reading "Christmas Yearning" by Mrs. J. Marrow. Six juniors from a local church choir sang several selections to the delight of the older citizens. Santa dropped in with good wishes and gifts for everyone. The Dalesville-Louisa W.I. presented a gift of two game boards to the Residence. Refreshments served by the Ladies Auxiliary brought the evening to a close.

Correction

Regretfully, gremlins mixed up the bookkeeping in the December "This Month with the W.I." Although they would have been pleased to do so, the Dewittville branch did not donate $200 to the Northern Branches. The figure should have read $20.

Welcome

The Q.W.I. Inc. are pleased to announce the organization of a new branch under the name of "West Island", taking in the area of Baldwin-Cartier County on the island of Montreal from Lachine westward to Ste. Anne de Bellevue. We bid welcome and extend good wishes to this enthusiastic branch of 24 members.

Thank You

I hope the many members of the Quebec Womens Institutes who so very kindly sent me letters and cards of sympathy on the recent loss of my beloved husband and companion of 51 years, will see this, and accept it as a personal and very sincere Thank You. The members of the Quebec Womens Institute certainly live up to the Creed, and the last line, "Let us not forget to be kind". I shall always remember your thoughtfulness and kindness.

Edyth R. Westover, (Mrs. J. W.)
2nd. Vice-President,
Quebec Womens Institutes.

Triennial Convention

The Fifth Triennial Convention of the Federated Women's Institutes of Canada will be held August 24-28, 1970, at the University of Manitoba, Winnipeg.

The theme of the Convention, "Communications — Keystone to Progress" is designed to bring into focus the objectives of the Federation as it enters its second 50 years of service to the country women of Canada.

It was in Winnipeg that representatives of the Provincial Women's Institutes met in 1919 to form the Federation. Not only will this event be suitably recognized but honour will be paid to Manitoba as the FWIC join in the celebration of their Centennial as a Province.

Time for Action

Project: FWIC Donations to Gift Stall Sale Table. Each Province is requested to send 100 articles to this receiving address: Mrs. T. L. Townsend, 100 King's Park, Fort Garry, Manitoba. The proceeds from this sale will be used to supplement FWIC Convention expenses.

Specifications for donations: 1) High calibre workmanship. 2) Moderately priced, range from $1 to $3 recommended. It is understood that the price may be changed if found necessary. 3) Suitable for carrying in luggage. 4) Non-breakable and non-perishable.

Suggestions: 1) Enclose article in clear plastic. 2) Include maker's name and address. 3) Please mark suggested selling price on every article.

Articles should be sent by August 1, 1970, to facilitate ample delivery time. Insurance will be carried by FWIC for the month of August. With your co-operation, we look forward to an outstanding display and an exchange of ideas and handicrafts.

Mabel Bell (Mrs. C. C. Bell),
Chairman, Handicraft Stall.

Special "Beef Cattle Night"

On Wednesday, March 18, Mr. Douglas Maus of Ayr, Ontario will be the guest speaker at the Montreal Farmers Club dinner meeting focusing attention on beef cattle. Mr. Douglas "Doug" Maus is President and General Manager of J. W. Maus and Sons, Inc. at Ayr, Ontario.

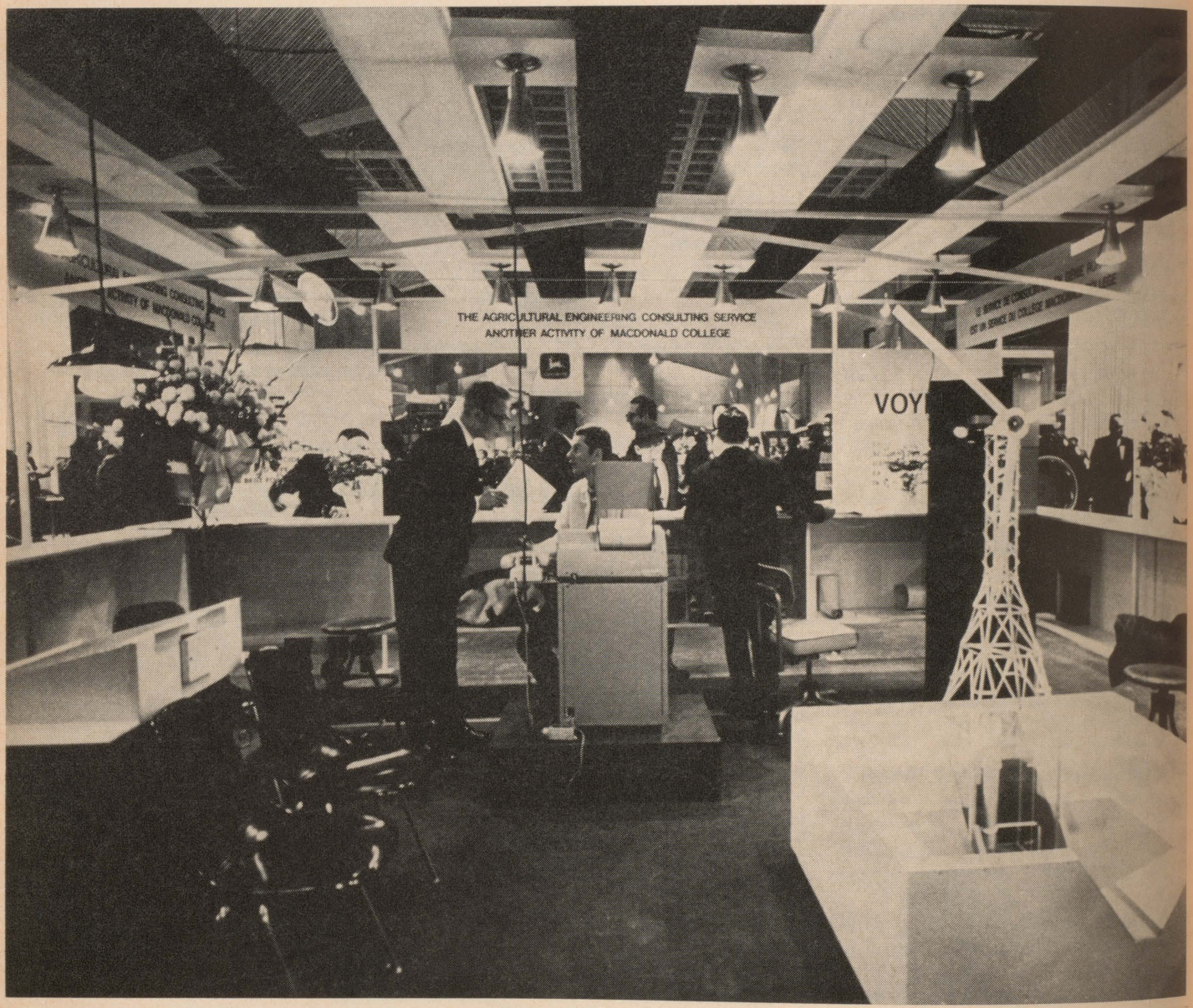
The Maus' story is one of outstanding success, and "Doug" represents what can be done by a practical farmer applying hard work and adopting modern business techniques.

The Maus farm is one of the biggest, if not the largest, beef cattle operations in Canada. They have a herd of about 900 beef cows and market about 9,000 cattle annually, which are fed in their own facilities.

They operate 4,800 acres with 2,000 acres of corn and about 400 acres of grain. They have one of the biggest barns in Ontario, 100 x 150 feet, which houses 500 steers.

"Doug" Maus has very specific ideas about the type of beef cattle he wants to feed, regardless of breed. His preferred method of marketing is to sell direct to the packing plant on carcass weight and official grade. He sells fed cattle on more markets than most cattlemen. And "Doug" is really optimistic provided, of course, the individual has what it takes.

Macdonald Reports



1970 Salon in tune with the Technological Age

New and bigger machines and tractors to cope with the ever increasing size of Eastern Canadian Farms were shown at the 1970 Salon of Farm Machinery at Place Bonaventure in Montreal from February 5 to 8. Because of the high cost of some of these machines, farmers must be judicious in their choice since the margin of profit in some crops is narrow and an over-expenditure in equipment can throw the books in the red.

To help the prospective buyer of farm equipment with the complex task of deciding which machine is best suited to his needs, the Agricultural Engineering Department at Macdonald College featured a computer analysis of machinery selection based on each farmer's specific operation. A grain corn grower, for example, with a certain acreage and a given hourly labour cost, was advised to purchase either a combine with a corn head of so many rows or a picker-sheller of so many rows pulled by a tractor of so many horsepower. Additional information such as per bushel and per hour harvesting cost was given on the output sheet so that the owner could decide whether to do the job himself or hire a custom operator to have it done.

The Macdonald College booth also featured the Agricultural Engineering Consulting Service. This is another activity of the College whereby farmers can obtain regular monthly information on such subjects as farm buildings and machinery, land drainage and irrigation, and many other topics dealing with Agricultural Engineering.

College engineers also call on farmers on request to make recommendations on remodeling or building new structures; working drawings can even be supplied if needed. The total cost to the farmer is a mere two to three percent of the cost of materials and is well worth the investment if one realizes that mistakes are usually much more costly than this. This type of service is much in demand nowadays with so many dairy farmers expanding their herd and switching to free-stall housing with investments of $600 to $800 per cow, including milking parlour, silos, liquid manure tank, and barn.

Today's farmers are anxious to obtain up-to-date technical information on all aspects of crop and animal production. Much printed material from numerous sources, from industry to Government, was supplied to visitors upon request.

New techniques in irrigation and drainage were shown through slides and the new type plastic drain tube was discussed with interested persons. This seemed to attract much attention because of the tremendous rate of increase in land drainage in recent years together with the shortage of clay tile that was experienced in Quebec and Ontario last season.

It is noteworthy that recent tests at Macdonald College by the Agricultural Engineering Department have demonstrated that plastic tubes compare favourably with clay tiles in terms of crushing strength once installed underground. It is estimated that 20 million feet of subsurface drains will be installed in Quebec this coming season, a far cry from the two or three million feet of the early 60s. Much of this work will be done by private contractors, whereas Government machines performed most of this work a few years ago.

Anyone associated with the exhibition during the four days could not help but become optimistic following discussions with the more progressive farmers that flocked to the Salon this year.

There is clear evidence that farming can be a good way of life for those who are willing to continue to seek the best production and marketing methods, and this, in spite of government policies. For example, governments could no doubt ease matters by finding a solution to the higher cost of farm machinery existing in Canada, and this has been suggested by the Barber Commission, but the prospect of this occurring is remote, and some farmers have sought their own solution by importing tractors from the U.K., at considerable savings.

Dr. Pierre Jutras,
Agricultural Engineering Consulting Service.

The Last Word

The Dilemma in Dairying: Surpluses or a New Way of Life?

It is not unusual these days for Quebec to be different. In the dairy industry it's even less unusual because Quebec has been labelled the culprit in the surplus milk problem in Canada for a long time. The year just ended was no different. Even with a 52-cent deduction on each 100 pounds of surplus, the increase in production of milk for manufacturing purposes was great enough to offset the decreases in other provinces and boost total Canadian production by 300 million pounds over 1968. It is, of course, this surplus milk — the milk produced in excess of that eligible for subsidy, that is causing the surplus of milk products in Canada — products that have to sell on the export market at a sharply reduced price and therefore at heavy losses. It is this surplus, too, that Mr. Olson has been making noises about in Ottawa lately, noises that are almost certain to mean cuts in the subsidy cheques — at least for those who produce a surplus — in April.

That Quebec is the culprit in the milk surplus problem is well enough known. What is not known, or at least conceded, is that the position the dairy industry holds in Quebec is different from that of any other province. The size and scope of the industry is itself unique. Over one million of the 2½ million dairy cows in Canada are in Quebec and they account for about 40 per cent of Canada's milk production. More important though is that 74 percent of the milk goes for manufacturing purposes and over 80 percent of the milk producers are selling to manufacturing markets.

This makes Quebec by far the largest producer of milk for manufacturing. Over half of the total milk for manufacturing that is produced in Canada comes from Quebec farms.

But it is not size along that makes the difference. It is the almost absolute dependence of people on the dairy industry that makes the difference. In no other province does dairying make up so large a part of agriculture, and in no other province do so many people depend so much on the dairy cow for a living.

In the better dairy areas milk production per cow and milk production per farm have been going up as rapidly as in other provinces. But, while in other provinces large numbers of small low income farms have been dropping out, and offsetting the increase from the larger farms, in Quebec most of these small farms have survived. Farmers have clung to these small farms because the alternatives for making a living, if any, were no better than their few dairy cows. With production going up on the larger, more productive farms, and the production of milk from the small farm areas remaining fairly stable, the total milk production continues to climb.

What about 1970? Well, if you were to go by the mood of Quebec dairy farmers right now, production would be down. Producers of milk for manufacturing are discouraged and frustrated, the bind of quota on subsidy has made it difficult to expand in the better dairy areas where re-allocated quota is scarce and expensive. Added to this is the uncertainty of what will happen in April when a further squeeze by the subsidy control program is expected.

As an alternative some farmers are talking beef. Already a few farm feedlots have been established and there is some interest in producing calves for beef. The promise of higher prices for feeder calves in the next few years has heightened the interest in some quarters and beef may well begin to replace dairy to a significant degree in 1970.

But the change will be slow. In areas where there is little or no opportunity to work off the farm, there is no advantage and perhaps a disadvantage in beef over dairy. After all, that milk cheque, as small as it is, comes regularly every month.

So, though there will be some farmers finding alternatives in 1970, the dependence on dairying will continue. When the end of 1970 rolls around, regardless of what happens to the subsidy program in April, I expect we will find another increase in Quebec's milk production.

Prof. P. Y. Hamilton,
Department of Animal Science.

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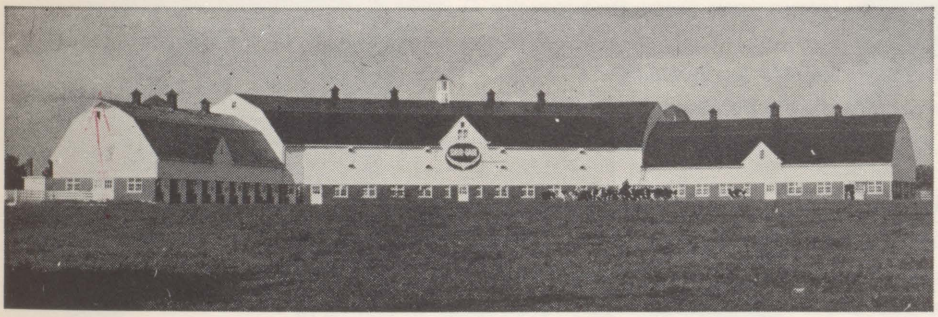

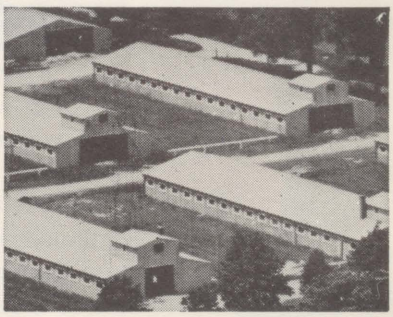

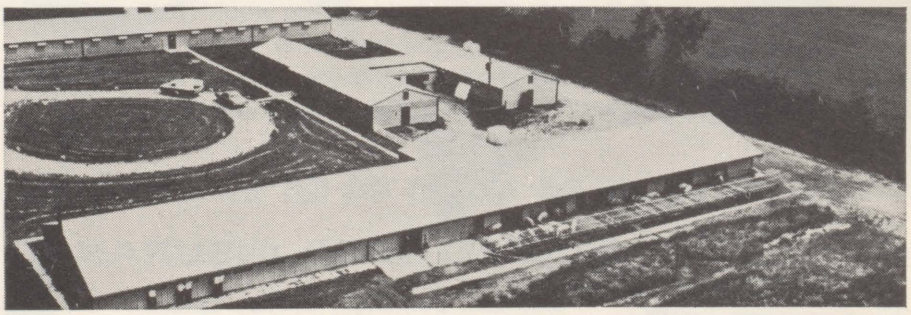

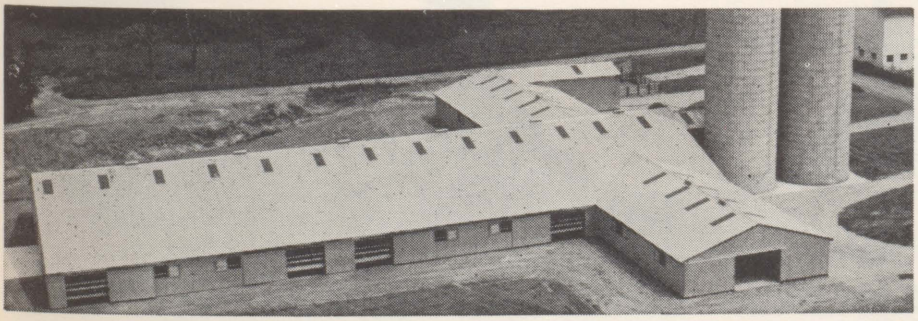

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